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## THE HEALTH OF OUR WOMEN AS INFLUENCED BY THE ADVANCEMENT OF CIVILIZATION AND MODERN GYNÆ- COLOGICAL RESEARCH AND METHODS.

BY ALBERT H. TUTTLE, A. B., M. D., CAMBRIDGE, MASS.

Annual presidential address, read before the Boston Gynaecological Society, January 12th, 1899.

It is the custom of this society to receive each year an address from the president to be delivered at the annual meeting. In this address the work of the society for the past year is pictured in resumé, the value of this or that paper emphasized, and the praise of this or that member sounded for the benefit of himself, his family and the world in general. It therefore becomes my duty as chief officer to prepare and deliver such an address upon this auspicious occasion, but as there are with us this evening many of our friends, who, perhaps, know little about the technicality of gynæcology, if they do not care less, I

shall depart from the usual custom, taking up a subject which I hope will be of more interest to the majority present, and leave for my successors who, probably, will be more proficient with the use of language and the pen, to depict the glory and triumphs which my confrères have achieved in the domain of diseases of women.

In selecting a subject for this evening I have endeavored to pick out a topic that can be comprehended by all, and one that as mothers, family physicians, or specialists, interest, similar or alike, may be found in the various and mooted questions for discussion:—The health of our

women as influenced by the advancement of civilization and modern gynecological research and methods.

Not unfrequently we hear remarks about the health of previous generations; how absolutely devoid they were of these "new fangled diseases." You never heard in grandmother's day of all these tumors and operations. Women had children then and never made such a fuss about it. What is getting into the girls of the present period? Half of them are unfit to be married, and the majority of them become invalids as soon as they have borne a child or two.

As practising physicians we do not believe all we hear, neither do we place great importance on these remarks, but as thoughtful beings it behooves us to give the subject a little consideration with the hope of ascertaining what truth there may be in them, and it requires but a brief study to show that there may be some foundation for these remarks.

Let us consider some of the changes that time has wrought in the habits of living, in the matter of dress, food, exercise, rest, and to simplify the matter let us confine the subject to home, where our greatest interest is involved, in other words we will note the habits of our American women during the days of our forefathers; the changes which the luxuries of modern civilization have brought; and the changes of the most recent times which we must look upon as a re-birth, a glorious renaissance. We will further consider the genic measures of earlier days; the benefits which Marion Sims, the father of gynecology, instituted; and the advancement along the path of aseptic midwifery and operative treatment, which received first impulse from the brains of Pasteur and Lister. And having considered these facts let us look into the events of the future from a basis of the earnest now in our possession.

If we could look into a colonial household when the family were gathered at evening tea, and survey

the premises, we would be surprised at the simplicity of things, even in the homes of the well-to-do. There would be an air of neatness and industry about the place, and yet I question if you could find the same number of servants, that the same family would have to-day. You would see evidence of the industry of all with rosier cheeks, better muscles, less artificial forms, more contented faces, less nervous wrecks, and fewer feeble constitutions as the result. You would find broad shoulders, full waists, easy flowing robes, bright eyes, uniform dispositions, far in excess of what you are now accustomed to. If you examined the table you would not find a ten-course dinner that had exhausted the wit and ingenuity of the housewife to prepare or the family doctor to take care of, but a simple evening supper of the plainest viands. If you were lodged there over night you would not be kept up till midnight playing, drinking and smoking, but would be allowed to retire at nine or ten o'clock, and you would not be disturbed at 1 a. m. by the entrance of the eldest daughter on her return from a dance or theatre party. Neither would it be considered proper for you to come down to breakfast at 9 or 10 a. m., as at that time the family is supposed to have half their morning's work performed and are contemplating their mid-day meal. If you were to go into the homes of the poorer people you would not see the great differences that now exist. There would be fewer shop girls with worn-out weary faces and expressions of lassitude, with evidence of improper nourishment. Neither would you find the factories, mills, shops, and prisons of civilization, which modern times have thrust upon us, in the development of a more perfect division of labor. You would find better morals and less syphilis, less tuberculosis, and more healthy surroundings than you are now accustomed to find. The ruddy glow of health would rarely be found displaced by the treacherous hectic

flush, and a careful investigation would show less crowded living quarters, more home comforts and a better health and tone of the people. We would find, then, that the women lived in a manner conducive to the requirements of hygienic laws: with well regulated diet, rest, clothing and exercise.

From this condition of our ancestors what has occurred with the development of the nation; with the invasion of wealth; with the acquirement of luxuries, which the evolution of modern times has brought unto us?

The changes have been brought about in so quiet and insidious a manner that we have been totally unconscious of these marked deviations from the simple ways of the earlier American settlers, and it is only by comparison of the extreme types that we can realize, like a hideous dream, the condition we have been reduced to.

From a simple nutritious diet containing all the elements of muscle and brain food we find changes according to the classes. The richer indulge largely in multiple courses, late dinners, with excess of fancy highly seasoned foods, pastries, ices and sweets. No where is the habit of candy eating more universal among the women than here, nor the amount consumed greater. Why, at the present time it does not take a very bright girl to tell you just what a pound of chocolates cost, the education of her taste is so finely cultivated in this direction. If you don't believe this try and palm off a second class article on her and ask how she likes it.

All this is deleterious to the welfare of the individual, for as the capacity and ability of your furnace fire-pot is limited, so is the size and power of your stomach, and you should therefore be careful in the selection of your fuel to use that giving the easiest, freest and most perfect combustion, with the least amount of residual ash or clinkers, if you wish to obtain the utmost value of this organ. For this

purpose a simple mixed diet at regular intervals of feeding gives the best results, and excesses of all kinds are interdicted. The value of starches and sugars is limited and in gross excess interferes with the digestion and assimilation of the nitrogenous foods.

When we investigate the diet of the poor we do not find so much difference as in the more wealthy. The chief difference is in the supply and the lack of preparation. Many content themselves with a cold uninviting lunch at mid-day that satisfies the poor appetites which results from indoor labor and lack of fresh air. And as the morning and evening meals are more or less secondary among this class, the result is improper nourishment in many cases. It may be needless to say that owing to low wages and a desire to dress well many women often stint themselves of proper food.

With the times have come many habits for pleasure and entertainment. A great variety of theatres and places of amusements, dances, women's clubs, card parties, and all sorts of secret and social societies, so much in fact that many women have a list of engagements for every night in the week, and the proportion of the better class that retire at early hours is small, and among other classes the amount of rest which is taken is diminished and irregular. The effect on many is that night is turned into day and day into night.

A change of dress has been of some importance in determining the health of our women. This is more marked in certain quarters than in others. The use of French corsets with constricting bands about the waist and the heavy weight of many garments are the most noteworthy points, as such are specially productive in establishing chronic pelvic congestions. High-heeled boots also have been a fad that tended toward feminine defects.

Exercise of the proper nature probably ranks first as the means of establishing and maintaining a healthy

and robust physique. This gradually became more and more needed as the industrious maid entered upon social duties at the expense of the routine daily work about the family household, or went into the shops and factories for the peculiar monotonous employment these establishments afford. However, the value of exercise was not recognized until the most recent times, or at least, not established. The impulse was started among the wealthier class simultaneously with the production of the modern classical athlete. Mild exercise in the open air was first instituted, and probably, was most manifest in the game of lawn tennis. About the same time came the gymnasiums and physical culture classes, which tended to place the study upon a higher plane and bring it forcibly to the consideration of the public. All this worked favorably among the higher classes, but the poor shop girl received no benefit from it, and it was not until the bicycle had become the most important fixture in the accoutrements of every up-to-date maiden, that this class began to realize the virtues which were theoretically deduced from studies on the value of exercise. So important a feature is the bicycle in this period I have termed the renaissance, that it is called the bicycle age, and it is well worthy to be called such, for in my opinion, the bicycle will do more under the proper conditions, to renovate the health of our women than any invention or proposition of the times.

Strange as it may seem, a bicycle ride is rest for the worn out shop girl, it will remove the back-ache which treading a sewing machine has brought on, it will restore color and glow to the cheeks, bring back a long lost appetite, and, better still, it will stimulate the organs of digestion to increased function, enabling them to make the most of their contents, with perfect digestion and assimilation, finally it will bring to the needy that great and blessed restorer, sleep. The

bicycle has done much to reform the style of dress. A loose blouse or trim jacket, of light weight, and easy with short skirts, also of light weight and corset waists, giving increased freedom of motion, form the costume generally adopted by the more sensible women. The ease and comfort of such a rig need only to be mentioned, and, when once appreciated a woman resorts more frequently to this style of dress, discarding, as soon as possible, the weighty and more confining clothes of social or business gatherings. The bicycle has brought the scenes of country and seashore into the world of the poor, and this extension of environment has much the effect of the vacation of the wealthy, and is a constant source of pleasant anticipation to purify the mind.

If the hours of rest are shortened—and I think that they not only are shortened, but that they will not be improved much by any talk on my part or that of anybody else—there is one thing certain, and that is, the most is made of what time is actually taken for rest proper, i. e. sleep, as a direct result of out-door exercise.

It will be seen then that at the very present day we have reached a condition of living that is more or less comparable with that of olden times, in regard to furnishing the exercise and other requirements for a healthy body. These new facts and changes have been partly foreseen and pushed forward from theoretical grounds, and partly result from mere accident in the development of the wheel as a mechanical hit of ingenuity that furnished simultaneously great pleasure and the best possible exercise.

Let us consider what effect these changes and exercise have at present in the well-being of women from the standpoint of gynecology because it is only by the most minute study of every element that we can accurately judge of the causes productive of results in toto.

It is as the old colored preacher said, "God then made woman with a



little variation from man." But no chronometer with its fine adjustments was ever made with more delicate mechanism than this "little variation."

Its constant effect in health, and influence in disease has, probably, been the principal cause in producing the mental peculiarities of women, and the question of good health and well-being depends largely on the manner in which these parts are kept in perfect working order. But, as this is true, so also is the fact that the healthier a woman and the less depressing her environments the less effect injuries of these parts will have on the nervous system. This then has been the most probable cause for the statements with which I prefaced my remarks. It is not fact that women did not have the same injuries of parturition in former days that they do at present; they had more, or others, for the use of forceps has not only saved the lives of many, but it has made rare that lesion, the repair of which made Marion Sims famous. They did not suffer so much from simple lesions because the health and general tone was much better then, and they could withstand the effects. I do not believe there were so many displacements of the uterus, neither were there so many cases of uterine catarrh or inflammation about the pelvis as at present. A majority of the latter cases have been brought about by the vicious habits of criminal abortion. A habit that seems to develop simultaneously with the accumulation of wealth and luxury, as it existed in the palmy days of Greece, and, later, decimated the higher ranks in the days of imperial Rome. The displacements of the uterus have found prolific causes in depressing habits with lack of tone, and matters of dress.

#### EFFECT OF GYNAECOLOGY.

The first important influence of gynaecology was manifest with the work of Sims, a gentleman of the most refined nature, to whose attention was brought a number of cases

of vesico vaginal fistula. Sims recognized at once the condition of these women, condemned as they were in those days to a life of suffering and misery, a nuisance to themselves and everyone about them, and immediately set about to devise means for repairing these injuries. After a year's hard study with many operations, repeated on a few individuals, he, at last, developed a method that was successful, and at the same time by often and close investigation of the parts—a research that had never before been executed—with improved instruments, revealed the injuries in clear light, that are so common in this region. He carried his work so far as to repair all the injuries of parturition and to re-establish a condition of health that had never before been enjoyed by this class of women, since the time of their motherhood. This master laid the corner-stone and the superstructure has been built up by such skilled workmen as Emmett, H. R. Stone, the founder of this society; Bozeman, Peaslee, Thomas, White, Byford, Goodell, Battey and a score of others, many of whom were worthy members of the Boston Gynaecological Society, until at the present day we are possessed of excellent and adequate measures for relieving the injuries of parturition.

Synchronously with the development of gynaecology, abdominal surgery has become perfected and has done much to remove causes of prolonged suffering and invalidism in women. Such for example as the inflammatory and new growths. In the midst of all, like the bright moon of night that dims the glitter of each surrounding satellite and casts its silvery glow without favor on rich and poor alike, comes the work of Pasteur. By teaching us that the cause of disease is often found in the minute germs, and that most of the inflammatory changes of wounds are produced by the activity of these organisms. Pasteur laid the foundation for all the higher advancements of modern surgery. Joseph Lister was

the first to bring the knowledge to a practical bearing in surgery. The result is that surgical technique has reached a standard that is almost mathematical in accuracy and has freed most operations from all but traditional terrors. At the same time the principals were found that laid the ground work of aseptic midwifery. By this means a woman can be delivered of her offspring with far less danger than in former years, and at the same time it is possible to make a complete repair of all the injuries of parturition without increasing, but in many instances decreasing the risk of life.

At present, then, we have the means of repairing injuries, removing diseased organs, avoiding septic invasions, and correcting fresh lesions, and by the judicious use of anæsthetics, without causing much suffering.

Such in brief is the present effect on the health of our women as influenced by gynæcology. But "truth travels slowly," and in the present generation we have much to contend with in the traditions of past ages. The fear of operative treatment coming from the past still exercises a potent influence on the minds of many women. They neglect or avoid the best means and methods for recovering health, so little do they realize the changes which modern surgery has wrought in removing the terrors of operative treatment, and often from this fear they purposely secure the services of quack or charlatan.

You cannot judge the intelligence of a patient from the physician she may employ as many of the patrons of medical pretenders represent the highest type of mental development, and it will take many years to blot out the prejudices of the past and bring the public into true appreciation of the modern doctor.

Frankness and honesty are the strongest weapons that the physician can use for removing the stigma of absurdity and buffoonery that has

clung close to the profession since the days of Dickens and Shakespere. He must learn to say he doesn't know, when a question is asked that is uncertain in his mind. If he is not sure of treatment or diagnosis he should not hesitate to call in a brother practitioner. In his case of labor he should not close his eyes when the time comes for the investigation of primary lesions, nor should he feel ashamed to point out the same and educate his patients in the fact that such lesions are often the necessary outcome of labor and not the fault of the attending physician. He should further teach the mother that a physician is to blame who neglects to search for injuries or to repair them as best he can when found.

Aseptic midwifery is at present but partially carried out. Many physicians have had no practical education in this direction and have utterly failed to comprehend the practical side from theoretical reading, and it will take several generations yet before the practice will become universal.

With the development of modern surgery has come the establishment of special hospitals equipped with expensive furniture, operating rooms, etc., to facilitate the careful technique necessary for the most perfect results, and by this means the work is made easier, and in the majority of cases the patient is better cared for.

It seems to me, that midwifery in the future must be conducted in similar institutions. The specialist devoting himself entirely to the study, would thus be enabled to give personal care to a larger number of patients, and rob the attendance of this class of work of many of the disagreeable features which in the past and at the present are the principal reasons why the old practitioner will devote himself no longer to midwifery than the condition of his finances absolutely demands.

The patient can be prepared in the same careful manner in which one prepares for an abdominal section, and, throughout, the case can be con-

ducted with the same degree of accuracy in technique.

The infant should be fed and clothed, bathed and rested with greater regularity and care than has been given it in the immediate past. A study of the health of the new-born and the proper hygienic requirements to the age of womanhood will do much to improve the constitutions of our women. The tendency is to over-clothe children. A healthy child needs little clothes either in winter or summer. To wrap them up too closely under ordinary circumstances makes them tender with slight resistive power and more prone to disease. They should be fed regularly and the food carefully selected to meet their demands. In the early months sleep should be encouraged as much as possible. Later, exercise in the open air, and night and morning air baths, for half an hour to an hour, besides the daily ablutions.

There is a general tendency to shorten the hours of labor and this should be encouraged. Work is excellent for the mind but it should not be prosecuted at the expense of normal recreation.

One should teach the young woman how to live, for, in the past she has rarely learned until the experience of age too late has convinced her. She should know more about herself from the lips of her mother, and be taught to cherish the virtues of a home, so that, as time passes and she enters upon the duties of a wife, she will not exhaust her wit conjuring means and methods for preventing conception and robbing herself of the greatest comfort God can bestow upon her.

We should continue the study of food, exercise, rest and clothing from the date of the past, estimate the

effects of civilization on the health of our women, and learn how, and teach how to combat them.

We can study the effects of gynaecological treatment by laboratory methods and govern ourselves accordingly. We can pick out physical defects and correct them by manual training. We can shorten the hours of laborious work and increase the time for rest, we can point out the defective foods and suggest the proper restrictions, we can point out the value of recreation and furnish means for procuring it. We will hardly be able to produce the image of a child of nature, but we will develop a good imitation, and one, to our civilized tastes, that will furnish us with more comforts, greater cheer and warmth in our homes, and brighten our daily paths in the vocations of life, far better in the future than in the immediate past.

In conclusion I wish to say that in touching upon this vast subject I feel very much like a master artist who sits equipped before the setting sun and with the beauties of heaven and a charming landscape before him attempts in vain the reproduction of a work marked throughout by the hand of God. With dull pigments, incapable of self-illumination, a body must be represented, so bright, that the unprotected eyes can hardly look upon it. The effect must be produced by the subtle arrangements of light and shade, a careful estimation of values, of color, of clear and obscure. When brought together by the hand of genius it may set the world into a state of admiration, but who knows like the poor artist himself who has studied every detail and compared it at every point with the scene before him how utterly unlike his work is to that of his Master; how flat! how dead!



## RESEARCHES CONCERNING INFILTRATION ANÆSTHESIA.

BY DR. PAUL HEINZE, DRESDEN.

Dr. Heinze records the results obtained in a very thorough and exhaustive series of experiments with the various proposed methods of local infiltration anæsthesia, having been led to undertake them by the fact that there is as yet no authoritative comparison of the various anæsthetics and their different concentrations and solutions for practical use. Most of the investigation that has been done has been purely clinical; but little of it rests even upon animal experimentation. It is only by trials upon one's own person that the details can be elucidated: and this method was the one the author employed in his comparative investigations.

The technique employed was as follows: A hypodermic needle of the finest caliber was inserted flat into the cutis of the fore or upper arm, and a small amount of the fluid to be tried injected. This amount was approximately the same in all cases, being sufficient to raise a lentil-sized endermic wheal. The sensations at the moment of injection were noted, and the changes of sensibility in the wheal found by means of prickings with a fine needle, and their duration noted. To obtain absolutely like conditions, for comparative purposes only often repeated directly consecutive experiments were used. The solutions were all at medium room temperature, since experimentation with an indifferent 0.6 per cent. salt solution had shown that solutions at a considerably lower or a slightly higher temperature affected sensibility very little if at all. Anæsthesia dependent upon the low temperature of the solution employed rapidly passes off as it gets warm; whilst hot solutions are liable to damage the tissues, and their wheals remain red and painful.

Distilled water was found to be absolutely useless as a local anæsthetic on account of the preliminary irritation of the sensory nerves that it occasions from the imbibitory swelling of the cells. Solutions of the same specific gravity as the tissue fluids are the only ones which can be employed without disturbing osmotic effects, and are called by De Vries isotonic concentrations. The specific gravity of an isotonic salt solution varies in different animals. In the human subject it should contain 0.9 per cent. of sodium chloride. But the experimentation showed that within certain limits, from 0.6 per cent. to 2 per cent., the osmotic action was so slight that the injection was entirely painless. And in solutions of such concentrations the salt has no specific poisonous effect.

Salt solutions less strong than 0.6 per cent. cause imbibition by the cells and swelling; those of 2.5 per cent. and upwards cause dehydration. When the latter are used there is irritation; the center of the wheal sinks in, and appears as a depression surrounded by an oedematous wall, which persists for some time; whilst the wheal itself becomes somewhat larger. This phenomenon occurs with any indifferent salt in similar concentration; with other materials the symptoms of dehydration are naturally masked by the specific action, irritant or paralyzing, of the drug itself. Hence experimentation with very dilute solutions of special substances can only be properly done with the addition of 0.6 per cent. of sodium chloride, which causes a like amount of swelling in all of them.

The author's conclusions differ from those of Schleich in regard to the painlessness and prompt anæsthetic



effects of a 0.2 per cent. saline solution. Schleich has claimed repeatedly that this fluid when injected causes only a slight feeling of tension, and that it is a useful, practical local anæsthetic. Heinze found that a 0.2 per cent. sodium chloride solution is very painful to inject, that the anæsthesia therefrom is not complete, and that it is anything but a practical anæsthetic. He also sides with Custer in disputing the correctness of many of Schleich's assertions in regard to the actions of neutral solutions and other fluids.

Sugar solutions Heinze found had no specific effect upon the sensory nerves. Bromide of potassium was an intense irritant, and did not even partially fulfill the requirements of a surgical anæsthetic. Pyocetanin (methyl violet) and methyl blue were still more unsuitable, since their actions were necrotic; the wheals always became gangrenous, and ulceration resulted. Caffeine and its salts were also found to belong to the class of painful anæsthetics, and their depressant action on the sensibility of the cutaneous nerves were found to be very slight.

Carbolic acid Heinze admits to be efficacious as far as its local anæsthetic effect was concerned; but it is practically useless on account of the dangers of carbolic acid gangrene. Even a 2 per cent. solution used on the unbroken skin has caused in Frankenburg's hands vascular stasis, thrombosis, and gangrene, due to the destructive effect of the carbolic acid upon the white and red blood globules. When we consider that in major operations the infiltrated tissues must remain for hours in the most intimate contact with the drug, and that these tissues are frequently already diseased, it is not surprising that gangrene should occur.

Heinze then proceeds to cocaine, remarking that the errors in Schleich's other conclusions necessitate a careful repetition of his experiments with this drug. The osmotic tension of cocaine, as of all alkaloids, is a very slight one, and a 3.7 per cent. cocaine solution is isotonic with a 0.6 saline solution. A 1 per cent. cocaine solution is isotonic

with a 0.15 salt solution; and a 0.1 per cent one is not distinguishable in its imbibitory qualities from pure water. The action of solutions like the latter is a mixture of imbibition and cocaine anæsthesia; the menstruum alone will cause a 15 minutes' anæsthesia. The paralyzing effect of the cocaine quickly masks the pain. The author admits that an anæsthetic effect without pain with a 0.02 per cent. cocaine solution is a "surprising result;" for one can readily convince one's self by trial that such a solution is very painful, and that a tender, red infiltration is left behind.

The author found that the lower limit of appreciable cocaine effect in an isotonic salt solution was extremely low, down to 0.005 per cent. (1: 20,000), and that such solutions were equally effective with watery ones; but the isotonic solutions did not injure the tissues, and the resultant wheals rapidly disappeared. Concentrated solutions, 3 per cent. and upwards, were found to be very painful, as Schleich remarks.

Morphine causes some anæsthesia, according to Heinze's investigations. In the lower concentrations this is partly the effect of the menstruum, as is shown by the very violent pain, which disappears progressively with the higher percentages as the morphine effect gains the upper hand. The use of all the solutions is accompanied by more or less violent paræsthesias. A 0.1 per cent. solution acts exactly like distilled water. Morphine, in spite of Schleich's assertion, is only active as a local anæsthetic in the stronger solutions, and always causes intense irritation. It is decidedly inapplicable for local infiltration anæsthesia.

As regards the solutions recommended by Schleich for local anæsthesia, Heinze found that in any surgically useful anæsthesia that its effects depend on the 0.2 per cent. of cocaine in solution No. 1, and not on the morphine or the sodium chloride; the same is true of solution No. 2, containing 0.1 per cent. of cocaine. In solution No. 3 the swelling and the co-

caine combined cause a short, complete anæsthesia, obtained at the expense of violent irritation. On the other hand 0.01 per cent. of cocaine alone causes a temporary but painless analgesia.

Heinze therefore considers Schleich's solution No. 3 as entirely useless, whilst Nos. 1 and 2 are efficacious on account of the cocaine that they contain; but the effect is obtained at the expense of a considerable irritant and noxious effect. Schleich's anæsthesia is entirely a cocaine anæsthesia. A 0.8 per cent. sodium chloride solution containing 0.05 per cent. to 0.2 per cent. of cocaine is the most suitable mixture of the kind for local anæsthesia, any admixture of other substances impairs its value.

Formanilide Heinze found to be painful and useless; and the same is true of acetanilide or antifebrine. Antipyrine is extremely painful and therefore useless. Guaiacol and guaiacyl are equally inapplicable.

Of all the new local anæsthetics Eucaine, employed in the form of the hydrochlorate, has excited the most interest. Alpha-Eucaine, the salt first prepared, is closely related to cocaine; like it it is a benzoylmethylester, the basic substance ecgonin of cocaine being replaced in it by another piperidine derivative.

Its especial advantages over cocaine and other newer remedies have been claimed to be that it is less poisonous, that it can be sterilized by boiling, and that it is free from by-effects. Its possession of the first two qualities has been acknowledged by all authorities, as also its effectiveness for the production of complete anæsthesia; but the third one has been disputed, more especially as regards the presence of irritative effects. In ophthalmology, most particularly, this has been noticed.

Heinze has tested it in this respect, and also as regards its value for the purposes of infiltration anæsthesia. He finds that when watery solutions are injected they cause uncomfortable sensations that sometimes amount to pain. These sensations were least

marked in 0.5 per cent. solutions; above and below that they were more noticeable. Eliminating the irritant action of the water by using in its place the physiological salt solution, he found that all the lesser strengths up to 0.5 per cent. were painless. He does not believe that Alpha-Eucaine can replace cocaine.

Vinci has proposed a modification of the drug which is known as Beta-Eucaine, occurring also as the hydrochlorate, and soluble up to about 5 per cent. in water. He claims that it has the same anæsthetic properties as Alpha-Eucaine, but has the advantages over it of being less irritating and less toxic. Silex has confirmed his statements, more especially as to the absence of irritative symptoms, and advises its use for the Schleich infiltration anæsthesia. Dumont and Legrand employed 1 per cent. solutions of Beta-Eucaine for the extraction of teeth, and published excellent results; the duration of the anæsthesia they found to be about one-third that of cocaine. Finally Lohmann employed it for surgical purposes in warmed 10 per cent. solutions, injecting 1 to 4 syringefuls; but he believes that as many as 30 could be administered. In no case were there any disagreeable by-effects, and the anæsthetic effects of the solutions were very high.

Heinze's experiments showed the complete equality of the Beta-Eucaine solutions with those of cocaine of equal percentages. This is dependent not only on the similar specific action of the two drugs, but also on the fact, as shown by Dr. Braun's investigations, that the osmotic tensions of cocaine and Beta-Eucaine solutions are about the same. Even the injections of 1 per cent. solutions show signs of swelling, approaching more nearly to those of pure water as the dilution is increased. All solutions of 0.1 per cent. and less, like cocaine solutions of equal percentages, cause an anæsthesia lasting about 15 minutes. A specific irritant effect is caused by Beta-Eucaine even less than by cocaine; for the injection of more concentrated 5 per cent. to 6 per cent.

solutions were painless, in contrast to cocaine solutions of similar strengths.

Heinze employed Beta-Eucaine in normal salt solution, and found that the intensity and duration of the anæsthesia was the same as that with cocaine. It was fully equal to the latter drug. Its other qualities, above all its apparent much lesser toxicity, and the nondecomposability of its solutions on boiling put it practically far ahead of the older drug; so that it is decidedly to be preferred, Heinze concludes, to cocaine for the infiltration anæsthesia, and is far superior to the Schleich solutions.

Orthoform was next investigated. It was found that its solutions were decomposed by boiling, sometimes even by careless warming; that they did not keep, and that therefore tests of the solutions gave very variable results. Its employment for infiltration anæsthesia was hardly practicable. Ane-sine also cannot be boiled in solution without decomposition, and cannot therefore be effectively sterilized; the author doubts its usefulness for the purpose in hand.

In the concluding portion of his article the author calls attention to the importance to be attached to the tissue changes caused by the infiltration; being circumstances of equal moment with the anæsthesia itself. Hence the importance of the employment of solutions isotonic with the tissue fluids. Beta-Eucaine and cocaine change the osmotic tension of the fluids that they are dissolved in but little. He strongly recommends that Beta-Eucaine only be employed

in the infiltration anæsthesia. It is the equal of cocaine in neuro-paralytic effect and absolute absence of irritation, and is superior to it in several ways. He recommends the following solution only for the infiltration anæsthesia:

Beta-Eucaine....0.1 grm. (1½ grains).  
Sodium Chloride....0.8 grm. (12 grains).  
Distilled Water...100.0 grms. (3½ oz.).

Such a stable solution, sterilizable by boiling at any time and as often as required, causes no swelling and therefore does no injury to the tissues; the Beta-Eucaine itself is the only anæsthetizing factor. The salt solution is not for the purpose, as Schleich erroneously believed, of effecting anæsthesia, but to avoid irritation even under unfavorable circumstances, and of permitting the specific action of the anæsthetic to take place alone and unhindered.

Naturally the above solution, which Dr. H. Braun has now used for months, is absolutely superior to the mixtures recommended by Schleich, more especially for inflamed tissues; its action here, where it is important that it should be warmed to body temperature, is purely paralyzing and entirely non-irritant.

In spite of the erroneousness of many of Schleich's conclusions his name will always be coupled with that of the infiltration anæsthesia. He was the first to investigate it, to free it from its dangers, to introduce it into medical circles, and to perfect its technique.

Abstracted from Virchow's Archive für Pathologische Anatomie und Physiologie und für Klinische Medicin, Band 153, Heft 3, pages 466 to 537, 1898.



## ORTHOPÆDICS FOR THE GENERAL PRACTITIONER.

BY EDWARD A. TRACY, M. D., BOSTON, MASS.

## CHRONIC TUBERCULOSIS OF THE KNEE-JOINT.

All cases of tuberculosis of the knee joint are more or less chronic—indeed chronicity is one of the diagnostic features of the disease. The prognosis, however, varies with the chronicity of the condition. Given a case of incipient tuberculosis of the knee joint, with proper treatment the prognosis is decidedly a favorable one for the recovery of function in the joint. Probably most cases start in with disease of the synovial membrane; this, with inefficient treatment spreads into the bones of the joint. Tuberculosis of the synovial membrane, with efficient treatment tends to recovery. Tuberculosis of the lining membrane and the bone, with inefficient treatment tends to the destruction of bone and contiguous tissues, the formation of abscess and sinus, and finally, to total destruction of the joint.

What constitutes efficient treatment of incipient tuberculosis of the knee (or other joint)? First, immobilization. Efficient immobilization of the diseased joint is the first essential of treatment. Can this immobilization be attained by plaster of Paris or silicate dressings? Bradford and Lovett in their *Orthopædic Surgery*, state (p. 375): "Plaster of Paris splints are made by the application of crinoline-gauze bandages impregnated with finely divided plaster. The limb is first wound in sheet wadding, and then the plaster rollers are applied. The method does not give in all cases certain, definite support. Dr. Judson says in regard to it: 'It may be an exaggeration, but it conveys the idea, to say that a plaster of Paris or silicate splint, applied to the leg and thigh,

contains a mass of jelly in which the femur is but little restrained from motion,' and in a degree this is true of all stiff bandages.

"Notwithstanding these statements it is remarkable that the authors mentioned also state that 'fixation by stiff bandages is an efficient method of treatment when the bandages are properly applied.'" The basis upon which the latter statement is founded, is the fact that some cases recover despite the imperfect method of fixation employed. I do not know that the cause of the imperfect fixation produced by stiff bandages—as plaster of Paris and the silicates—have been heretofore described by others. The causes, however, are easily comprehended when the attention is directed to them.

In the treatment of the cases under consideration the causes are two; and no matter how skillful he who applies the dressing may be, these two causes remain to prevent the result aimed at—perfect immobilization. They are the use of cotton batting (short wadding) and the muscular atrophy that occurs after the application of a fixative appliance. Cotton batting is not a fixative appliance; it is compressible, and interferes by just so much as it is compressible with the fixative appliance—the plaster, or whatever it may be—applied outside of it. It is a principle of mechanics that the efficiency of a fixation depends upon the nearness of the fixative appliance to the thing to be immobilized. Padding, therefore, interferes with immobilization.

The second cause is muscular atrophy. To this there is fortunately a limit, and after the application of the



third or fourth stiffened bandage it ceases to be a factor of inefficiency. The combination of the two causes, I believe, in all cases retards the cure of cases under treatment, and in some cases works havoc that is irreparable.

An efficient method of fixation does away with the application of shirt wadding, etc., and brings the fixation material directly next the skin. Moreover, as soon as muscular atrophy interferes with fixation in the slightest degree, the bandage retaining the resilient splint can be tightened, thus perfecting again the fixation. Practically this efficient fixation is produced by moulding some plastic material over the limb from near the perineum to near the ankle joint. Leather and felting has been so used. I prefer, however, wood-fiber splint material, because of its plastic properties, and because of its resiliency, durability and lightness.

Fixation of the knee-joint can be produced in two ways, according as the case is of incipient or chronic tuberculosis. In an acute case a splint moulded over the inner and posterior aspects of the leg and thigh when properly applied and bandaged furnishes an efficient immobilization of the desired joint. This splint form I had supposed was original. I find it described, however, by Hilton in his classic "Rest and Pain." This master of surgery used leather in making this splint form—in his work he published cases illustrative of its efficiency. In chronic cases a double splint, moulded over the thigh and leg so as to encase it from near the perineum to the ankle is found most efficient.

Next in importance to fixation of the tubercular joint is constitutional treatment. The bodily functions must be maintained at their best, and nutrition (assimilation) looked after. Children under eight years should be kept up and about, by aid of a Thomas splint and a raised shoe. A Thomas splint is essentially a perineal crutch. It should not be relied upon for fixation. Some orthopædists do

so, however, at the cost of injury to the joint. For children over eight years old protection is furnished the joint by means of a raised shoe, 2 1-2 to 3 inches above the ground, and crutches. Medication may be of some use. Protoiodide of mercury 1-4 grain after each meal, I believe useful. Of course the gums, mouth (salivation) and bowels (gripping diarrhoea) must be carefully watched while administering this powerful medication.

Duration of treatment.—I have seen recovery from tuberculosis knee-joint disease, treated by absolute fixation from its incipency, in fifteen months. Chronic cases in adults treated by absolute fixation, after six to nine months are so far cured as to let the patient use the limb without apparatus. If after that there is recurrence of tenderness or other indication of active trouble in the joint, the immobilizing splints are immediately reapplied or a month or two. In these chronic cases there is sometimes present bony ankylosis. It is incurable. In most cases there is ankylosis caused by adhesions otherwise than bony. Passive motion with slight force often increases the range of motion in these joints. Forcible breaking up of such adhesions is risky and had better be left to orthopædists willing to risk such an operation. If the limb is fairly useful advise your patient against such a risk.

To sum up: the treatment of tuberculosis of the knee-joint consists in absolute fixation, readily gotten by the use of wood-fibre splint material; protection to the joint, so that no weight is borne by it, by means of a Thomas splint (or other perineal crutch) and a raised shoe on the sound foot, or by means of crutches and a raised shoe; and attention to the general health of the patient by constant watchfulness of the nutrition and hygienic surroundings of the patient.



# Editorial

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## ON THE USE OF NITRATE OF SILVER IN INFLAMMATION OF THE BLADDER AND URETHRA.

Leopold Casper calls attention to the allegations often made that stricture may follow the use of deep injections, and admits the truth of some of them, but believes the stenosis is dependent on the improper use of the silver salts: as when the solution is of such strength as to penetrate into the sub-mucosum and induce serious damage to the basal connective tissues.

He, however, claims that for follicular or chronic urethral or vesical catarrh nitrate of silver solutions are sovereign remedies. In ordinary cases Guyon's 1 per cent. solution is safe and prompt in action.

Casper instituted an extensive series of experiments on the bladder and urethras of dogs and rabbits, in order to study the physiologic action of the silver nitrate on the mucous membrane.

Casper divided his cases into four groups, according to the site of the

urethra operated on, and the intensity of nitrate solution. He then noted carefully the effects of the reaction, and the ultimate pathologic change following after distant intervals, the animals being killed and minute anatomical examination of the urinary path made.

One most notable feature of these experiments was the remarkable propensity of the urethra in effecting restitutio ad integrum in a very short inburgh.

Von Monatsberichte über die Gesamtleistungen auf dem Gebiete der Krankheiten des Harn- und Sexualapparates Herausgegeben Von.

NOTE.—The most important discussion and summaries on the subject of urinary infection and the means best calculated to eradicate it by installations, etc., were recently submitted at the annual meeting of the British Medical Association lately held in Edinburgh.

Roosing's brochure was of special interest, because he not only impressed the importance of locating with precision the site of lesion, but also of determining the character of the infection; therefore, while discussing the use of the silver salts in the bladder in appropriate cases, he says:

"The seat of the disease can be ascertained by means of the cystoscope and ureter catheterisation, and only by the use of these valuable aids, for which we owe such thanks to Nitze, Casper, Kelly, and Albarran. I have often had patients sent to me with all the known symptoms of cystitis, who have for a long time been treated by their medical attendant with local application of nitrate of silver in the bladder without effect, although this treatment is otherwise so successful. I have, on cystoscopic examination, found that these cases were not cases of cystitis at all, but of unilateral pyelitis or pyelocystitis. In such cases it is, of course, utterly useless to destroy the germs of infection in the bladder, when fresh supplies are constantly streaming in through the ureter."

*Brit. Med. Journ.*, Oct. 29th, 1898.

From the above it is clearly apparent that before we would subject the vesical mucosum to treatment we must first be assured that the site of infection is not higher up. However, it should not be forgotten that in a considerable number of those with hypertrophied prostate, and those with stricture or supersensitive urethra, cystoscopy is impracticable, and, further, in any event, it is available as a means of definite diagnosis, only in the hands of an expert.

Under these circumstances, with a proper examination of the body, and repeated chemic and microscopic urinalysis, renal suppuration may point with positive certainty to the seat and source of purulent change or bacterial invasion without ocular canulizations of the passages.

Roosing describes with some detail the manner of employing the nitrate of silver in cystitis, and continues:

"Should our investigations lead us to the conclusion that we have to deal

with an inflammation confined to the bladder, or with bacteruria, the only rational therapy, in my opinion, is local treatment, by which the germs of infection in the bladder are destroyed. All the various antiseptic preparations used in surgery have been tried for this purpose: solutions of carbolic acid, of sublimate, of phenosalyl, etc., but none of them can be compared to nitrate of silver in a 1 to 2 per cent. solution. In my first work, in 1889, I showed the cause of this superiority, namely, (1) its eminent and certain bacterial-destroying effect; (2) its penetrating power, which enables this antiseptic to reach the microbes which have made their way into the mucous membrane.

"The effects of nitrate of silver are as surprisingly rapid and striking in cystitis as in ophtho-blenorrhoea. Obstinate cases of cystitis, which have defied every other treatment, are often seen to disappear after one or two energetic local applications of nitrate of silver. The method of treatment which I have finally adopted is as follows: A sterile catheter is introduced, the bladder emptied, washed out with sterile water until the water returns almost clear; 50 c.cm. of a 2 per cent. solution of nitrate of silver are then injected. I allow this to act for two minutes, after which I inject 50 c.cm. of sterile water and remove the catheter, thus leaving 100 c.cm. of a 1 per cent. solution of nitrate to remain in the bladder to be passed later on by the patient. According to my experience, this treatment is so infallible in cases of simple cystitis, that medical men who do not use the cystoscope may consider its defective action as an indication of pyelitis, or pyelo-cystitis. If the treatment has no effect, and if the possibility of stone, or tumour of the bladder can be excluded, we have probably to do with a pyelitis and not a cystitis at all. If the treatment causes a transitory improvement in the pains, tenesmus, and the appearance of the urine, we have probably a case of pyelo-cystitis, the cystitis being temporarily cured, and recommencing

when the bladder is again infected from above.

"In cases of pyelitis, or bacteriuria, arising in the kidney or pelvis, I do not, as a rule, institute a local antibacterial treatment as Casper and Kelly do, by introducing a catheter through the ureter into the pelvis and washing out with boric water or solutions of nitrate of silver. Daily ureter catheterisations are troublesome to the patient, and are not without danger, and I believe that the results aimed at by Kelly are sooner and more certainly attained by my simple and harmless method of treatment, which consists in giving the patient 2 litres of distilled water to drink daily, and prescribing 3 to 4 grs. of salol. In this way the urinary tract is constantly washed from above downwards with a great quantity of a slightly antiseptic fluid. The urine becomes exceedingly diluted, which circumstance diminishes its nutritive value for microbes, whilst the salol renders it still more adverse to bacteria.

"In obstinate cases, I put the patient to bed and introduce a Pezzer's catheter à demeure. In this way the urine is not allowed to stagnate in the bladder in the time which elapses between two micturitions, and a continuous washing is thus established.

"The effects of this treatment are surprising, rapid, and complete, but should be controlled by bacteriological examination of the urine, and the treatment continued until the urine is sterile. Should the case defy treatment, or the disease reappear time after time after apparent cure, we may be tolerably sure that there are complications—frequently stone, floating kidney, or obstacles in the ureter—and it is then advisable to seek for these factors, which keep up the disease, by explorative renal operation."

No doubt in "simple" cystitis the solution described often acts with energy and certainty, but there is a considerable margin of cases which will not tolerate the nitrate; cases in which the most violent strangury may follow, and in which cystic inflammation will persist.

In some of these the writer has found 1 per cent. solutions of phenic acid, or saturated solutions of boracic acid bring to an end a cystitis when other more pungent solutions had failed. In a general way, however, Roosing's position is a strong one, for we have now good evidence that very many cases of so-called "rebellious" cases of cystitis are suppurating kidneys or vesical tuberculosis.

Roosing's recommendation to employ large libations of two litres of sterilized water is of great value. He would, at the same time, advise that from 3 to 5 grains of salol be taken, for its well-known antiseptic effects on the urine, when taken by the mouth.

It is well to bear in mind that cystic irritation, or inflammation, succeeds from causes acting through the passages into and from the bladder and, from, also, let it be remembered, through systemic conditions, acting through the circulation.

In treating cystitis then, let us not overlook complications co-incident with syphilis, tuberculosis, malaria, etc., and always, unless there are special reasons for acting otherwise, feel the system, so to speak, with internal remedies before we subject our patients to the pain or the dangers of instrumental therapeutics. Nor should we lose sight of the wide difference of our line of action in the sexes, bearing in mind, the extreme susceptibility of the female bladder to inflammation, after any description of instrumental manipulation.





## THE MASSACHUSETTS MEDICAL BILL.

There is a rumor about the State House that the annual report of the State Board of Registration in Medicine will recommend, to the Great and General Court, the enactment of the Medical bill urged by the Board last year, and adversely reported by the Committee on Public Health.

The Committee on Public Health gave several hearings on the bill last year, and it was supported by Dr. Harvey, Chairman of the Board of Registration in Medicine, and a number of other regulars, and opposed by a very large number of irregulars, Christian Scientists, Spiritualists, theosophists, osteopaths, and others not recognized by the State Board as regulars.

The bill of last year restricted the practice of medicine to registered physicians, and provided penalties for the practice of the healing art by others.

This is a movement in the right direction upon which the old Bay State has been altogether too conservative, under the impression that she has been acting in line of advancement. The result has been that Massachusetts is overrun with all sorts of self-instituted healers to the detriment of the public health and welfare, rather than to the pockets of the medical fraternity. We doubt if there is a city in the United States that is more the hot-bed of fanatic ideas, relative to the healing art, than Boston, which prides itself as the "Athens of America" in all other matters. The great trouble lies in the fact that the State is so overrun with these so-called healers that they simply overwhelm the legislators by the number of their lobbyists, and any measure for the good of the community that would emancipate them is promptly defeated, even when well intended for the public good.

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QUACK ADVERTISEMENTS.

Every physician knows of the methods of the advertising charlatan of the present day without elucidation in this article. The daily and weekly press, and, indeed, some of our monthly magazines fairly teem with the flaring accounts of the marvelous "cures" (?) wrought by this or that nostrum, always brought about after the failure of, not one, but many regular practitioners. All this the long-suffering physician expects and gracefully submits to, and, as behooves his dignity, ignores.

This advertising policy has, however, been of late brought to a pass where there should be a halt called on its methods of deluding the too willingly humbugged public. Reference is made to the practice of citing the statements of leading reputable practitioners, and dilating, in the advertisements, upon how these eminent scien-

tists have *agreed* with Dr. Quack, easily leading a layman to believe that the practitioner was in sympathy with the methods of the charlatan.

Just how this evil of usurping the good name of a reputable practitioner is to be abolished is as difficult of solution as the nostrum advertising question itself. Probably more good could be accomplished through suits for damages, if such could be sustained in courts of law, than through any legislative enactments relative to advertisements. The difficulty comes, however, in the cost and publicity which such legal prosecution occasions the participants, as it would be a matter of all gain to the quack who would pose as a much persecuted object before the public eye.

Some of our leading magazines have recently taken up the subject of eliminating objectionable advertise-

ments from their pages in other lines than medical, with profit to their publishers, both from a financial, as well as ethical point of view. If all publications, which appeal to the public for support, were to eliminate from their pages all advertisements which from their wording are destined to deceive the public, or refuse to print advertisements of nostrums or medicinal treatments except with the certified formula of the same, something might be accomplished in the right direction. Every person has a right to know the ingredients of a medicinal compound he is to take whether given him by his regular physician or purchased from his druggist or other person.

How often we see in these quack advertisements of the daily press a lot of rot about germs and their "ravages upon the human system." Nothing is said about the ravages of the quack, either upon the systems of the easily gullible, or their pocketbooks. Is not the daily press in a measure responsible for such tricking? How would the publishers of some of our responsible papers like the suggestion of some such letter as the following example:

Dear Sir:—

Knowing of the reliability of your paper and seeing therein an advertisement of Dr. Quack, wherein he promises to cure without fail certain diseases with certain remedies of his specific and secret manufacture in a specified time, I applied to him for relief. I regret to inform you that he has made me so much worse through his methods, that an amputation was made necessary of certain of my parts, and that you, as agent of Dr. Quack, (he being worthless) will be held responsible for my condition, and damages to the amount of \$50,000 will be demanded of you.

Unique as this proposition may be, and irrational as it is at the present day, it contains a principle which if once started might easily overcome

the dangerousness of the quack advertisement. It would make journalists careful as to what material goes into their advertising pages, and it would raise the value of their periodicals in the estimation of the public in relation to its reliability. Yellow journalism is as evident, to a man of brains, by the advertising pages of a paper as by the correspondent's writings.

Comment is made by the publishers of these dailies that "physicians do not advertise in our papers and the charlatans' advertisements are a source of large revenue which could hardly be replaced." True, avaricious publisher, but are you going to sell the bodies of your subscribers for a mess of pottage, and make your sheet so unreliable in its statements that reputable physicians spurn the idea of inserting even the "ethical card?"

One of the very reasons why physicians of reputation do not place their cards in the local papers, while they are accredited, truly, with other modes of advertising, is because of the vile association they would receive with the advertising quack, at the hands of the publisher, and the public, relying on the veracity of the publication, will not recognize a difference between the two.

The subject is one which is at present too hopeless for proper solution while the patent laws protect the machinations of those who seek wealth at the expense of the public. In no place is the witticism of the famed Barnum more in evidence than in relation to advertised nostrums and quacks: "The public like to be humbugged." The periodicals press the button and the quack does the rest. Why should the responsibility rest entirely on the quack?



## ETHICS AND HOSPITALS.

As a matter of fact the "code" is not lived up to as it was formerly. The struggle for bread and butter, doubtless, in many cases, interferes with the practice of "noblesse oblige," and many a tyro in the profession is surprised at the manner in which his previous rights in a case are quietly ignored by his elders—some of them quite eminent in the profession.

While for such occurrences in private practice there may be some excuse—the chief one—the will of the patient—is all sufficient—there occur, not rarely at hospitals, flagrant violations of the code both in letter and spirit, for which there is no excuse. I refer to charitable institutions both of public and private endowment. These institutions are for the treatment of the poor. In a great number of them there is no attempt made to ascertain the poverty of the applicant. More than 50 per cent. of those patients treated in the out-patient departments can afford to pay for treatment and ought to be made do so. To treat such patients in these hospitals is doubly unjust: it is robbery of the poor of treatment intended for them solely, and a robbery of practice from outside doctors,

struggling to make an honest and decent living. This evil of hospitalism is universal. That does not palliate it. It is not treated of in the "code." But that does not excuse it. It is not the only evil of hospitalism. It is allowed to exist. May even be defended by members of hospital staffs, not because justice is desired, but because they want more "cases." There is another evil—not unknown in hospitals of wide esteem. I refer to reputation wrecking. An example: A capable practitioner is treating a case. The patient is advised by somebody to see the hospital doctors. It costs nothing, so he goes. The patient is surrounded by grave and reverend seignors who remove whatever apparatus the practitioner has applied, apply something else, tell him to be sure and come again—his condition is serious, the outcome doubtful and it's well he didn't let his case go further without proper treatment. These wreckers dare not do this in private practice. Under charity's sheltering wings they feel free to act. Is there no redress for the practitioner, or is the "code" intended to govern his actions and not those of his more fortunate brother (?) on a hospital staff?

## KENTUCKY UNINVERSTY MEDICAL DEPARTMENT.

The annual session of the Medical Department of Kentucky University began on January 2d, 1899, under unusual favorable auspices.

On December 31st, the following gentlemen, formerly Professors in the Kentucky School of Medicine, were elected full Professors in Kentucky University of their respective departments:—

Prof. J. B. Marvin, B. S., M. D., LL. D.—Professor of Principles and

Practice of Medicine and Clinical Medicine.

Prof. J. M. Holloway, A. M., M. D.—Professor of Surgery and Clinical Surgery.

Prof. C. W. Kelly, C. M., M. D.—Professor of Anatomy.

Prof. S. E. Woody, A. M., M. D.—Professor of Chemistry and Diseases of Children.

Kentucky University, on January 1st celebrated the 100th anniversary of its foundation; it being originally Transylvania University.

## BOOK REVIEW

**TWENTIETH CENTURY PRACTICE. AN INTERNATIONAL ENCYCLOPEDIA OF MODERN MEDICAL SCIENCE. BY LEADING AUTHORITIES OF EUROPE AND AMERICA. EDITED BY THOMAS L. STEDMAN, M. D., NEW YORK CITY. IN TWENTY VOLUMES. VOLUME XVII, "INFECTIOUS DISEASES AND MALIGNANT NEOPLASMS." NEW YORK: WM. WOOD & COMPANY. 1898.**

The seventeenth volume of the Twentieth Century Practice is issued ahead of the sixteenth owing, it is stated to, unforeseen difficulties in publication.

In brief it deals with infectious diseases and malignant neoplasms.

The opening article is on diphtheria, by Drs. W. H. Park, of New York, who treats of its general pathological and bacteriology, and Prof. Jacobi, of New York, who gives exhaustive account of its symptomatology and treatment. The discussion of the anti-toxin treatment is exceedingly interesting.

Tetanus by Victor Babes, of Bucharest, forms a short but valuable article. He deals with the serum treatment of tetanus in a capable manner.

Cancer forms the next subject, and is taken up in much the same manner as the subject of diphtheria. The general pathology of cancer forms much of the bulk of the work and is admirably written by W. Roger Williams, F. R. C. S., of Bristol, England. He has entered the subject with citations of established facts and supported them by illustrations of cases. The symptomatology and treatment of cancer is written by Dr. William B. Coley, of New York. The same authors deal of sarcoma in succeeding chapters in the same manner. Suffice to say that nowhere in medical literature can there be found more complete articles on these important subjects.

Malignant new-growths of the skin by Dr. John T. Bowen, of Boston, and malignant diseases of the female organs of generation by Dr. Edward McGuire, of Richmond, Va., form the closing chapters of the volume and are both worthy of comment.

### "WHITE DANDY."

A Companion to "Black Beauty."

A new book has just been issued entitled "White Dandy," which is one of the best stories we have read, giving a horse's own story and teaching kindness to the horse as well as to other animals. It is announced as a companion book to "Black Beauty,"

the noted book of which over two million copies have been sold.

This new book is written by Velma Caldwell Melville, a very competent and pleasing writer, and is issued by J. S. Ogilvie Publishing Company, 57 Rose Street, New York, and is sold for 25 cents per copy, and is also for sale by all booksellers.





## PEDIATRICS

In charge of LOUIS FISCHER, M. D.

### ADDISON'S DISEASE IN CHILDREN.

Addison's disease has generally been considered rare in childhood. Dezirot has, however, collected a series of observations showing that it is not so uncommon as is supposed. He has collected records of 48 cases, the youngest being 7 days old, and the age of the eldest included in the series was 14 1-2. Almost invariably the condition is due to tubercle. The earlier symptoms of the condition are extremely vague, consisting either in extreme weakness which does not, however, coincide with any loss of weight or anæmia. In other cases gastro-intestinal symptoms, such as nausea, vomiting, diarrhoea, constitute the earliest manifestations, and of all the cases collected by the author these symptoms were usually present. On the other hand, pain and pigmentation are particularly uncommon in the child. Convulsive seizures are usually met with in the infantile form of Addison's disease. Intermissions are sometimes observed, and as a rule the course of the disease is more rapid than in adult years. The author has obtained some fair results with suprarenal medication.

*Journ. de Med., Aug. 28th, 1898.*

### A CASE OF CHOREA MINOR INVOLVING ALSO THE IRIS.

Dr. H. B. Sheffield relates a case of chorea minor in a girl, 10 years old, who presented most remarkable disturbances of the pupils. They would dilate as well as contract repeatedly within one minute, so that he ventured to call them "Parrot pupils." At times they presented a pin-head appearance, while at others the dilation

was so immense as to render the iris almost invisible. Ophthalmoscopic examination revealed no special derangement of the internal eye, except a slight hypermetropia. The momentary dilations and contractions of the pupils were particularly pronounced during the first few days of the attack, when, with gradual abatement of the other symptoms, they, too, became normal. Sensation was unaffected. She was discharged, completely cured, after eight weeks and no relapse set in. The treatment consisted in rest in bed and large doses of Fowler's solution. During the first few nights ten grains of chloral hydrate were given to produce sleep.

Chorea affecting, as it is generally accepted, the voluntary muscles only, and the muscles of the iris belonging to the unstriped variety, the above case is certainly an exception to the rule. To explain it, the writer says, we would either have to agree with the few observers who believe that chorea occasionally involves involuntary muscles also, or we would have to attribute the phenomenon of the pupils to some nervous disturbance.

—*Am. Medico-Surg. Bull., vol. x, No. 42.*

### CLASSICAL SYMPTOMS.

Let's have a general house-cleaning day, and brush down the old cob-webs of "Classical Symptoms" from our brains. What young physician has not let diagnosis linger in the lap of expectancy while vainly awaiting the gorgeous pageantry of "classical symptoms" to appear. Disease has no special fondness for the multiplication table, and he who expects pathological manifestations to exactly fit every rule of the books, should go and talk business with the undertaker.

—*The Medical and Surgical Monitor.*

### TREATMENT OF LARYNGO-SPASM.

Hugel mentions the experiments of Krause as being one of the latest additions to our knowledge of the etiology of laryngospasm. Krause found that stimulation of the cortex in the neighborhood of the prefrontal gyrus caused spasm of the glottis. The vasomotor centre was stimulated almost at the same time; this causes anæmia of the brain, with a resulting general convulsion. Experimental evidence, however, is often of little clinical value. The author has cured laryngospasm in 6 cases; the ages ranged from 2 to 13 months. The spasm was caused by an enlarged and elongated uvula; astrigent remedies had no effect whatever on the size of the uvula. The cessation of spasm and convulsions was very marked after the uvula had been cut. Hugel believes that an elongated uvula is often overlooked in practice; and he lays stress on the fact that a little local treatment will often obviate the necessity of giving internal remedies.

Munch. Med. Woch., No. 44, 1898.

### PYAEMIA IN A BOY THIRTEEN YEARS OLD.

The boy in question came under the care of Dr. H. B. Sheffield for a small pustule in front of the ankle-joint, which resulted, he thought, from pressure of the shoe. The pustule was incised and dressed with iodoform gauze, after evacuation of the pus. The following day he was admitted to the hospital, with a chill and headache. The latter improved after the administration of two and one-half grains of calomel. The pustule had almost entirely healed.

September 6th, chill at 10 o'clock a. m., followed by profuse sweating. Faint pericardial friction sound, heard loudest over the base of the heart. Complained occasionally of severe frontal headache.

September 7th, former symptoms increased; delirium; pericardial murmur louder and more diffuse.

September 8th, symptoms of col-

lapse at 12 m.; profuse sweating. Nausea at 6 p. m. Pleuritic friction sound along left axillary line at junction of sixth and eighth ribs. The patient complained of severe stitch pain in this side. Short, hacking cough. Precordial region greatly enlarged and prominent; flat on percussion. Appearance of small vesicles, resembling those of varicella, along legs and soles of feet.

September 9th, all symptoms more severe in character. Pain in left groin. Urine loaded with albumen, pus and blood cells, hyaline and epithelial casts. Troublesome cough and dyspnoea. Feet icy cold. Body hot and bathed in profuse perspiration. Crepitation over several spots of the chest.

September 10th, stiffness of limbs; marked delirium; bronchial breathing instead of previous crepitation; enlargement of the spleen and liver.

September 11th, partial paralysis of entire right side of the body. Speech thick, difficult, and incoherent. Slight perspiration. Unconscious most of the time. Pericardial sounds markedly fainter.

September 12th, 13th, 14th, general condition seemingly a little improved.

During the whole illness the patient took plenty of nourishment and never vomited. Paralysis of the sphincter ani was manifest on the 11th. The temperature varied from 105 to 107 F., and was not intermittent in character. This would seem to be opposed to the teachings of most text-books. The pulse corresponded with the rise and fall of the temperature; it averaged 130 per minute, and presented nothing peculiar. The respiration changed with the development of the complications. It averaged 50 per minute. On September 9th it stood 70 for over six hours.

Examination of the blood, undertaken three times during the ten days of the illness, showed nothing abnormal except an increase in the number of the white blood corpuscles, and on one occasion two diplococci were found lying on or upon the red blood corpuscle.

September 15th, the patient developed pulmonary oedema and died.

Post-mortem examination six hours after death: Body well nourished. Signs of decomposition on the face and chest. No rigor mortis. Pericardium very prominent. A small incision made in this location gave exit to about one and one-half pints of purulent, fibrino-sanguinolent fluid. The heart was enlarged and darker than normal. The pulmonary valve was perforated, and upon the edges were seen yellowish-white vegetations. Vegetations were also present below the aortic valve and upon the endocardium. There was a purulent exudation upon the surface of the pericardium, which was firmly adherent to some portions. Pericardium adherent to the pleura. The lungs, liver, spleen, kidneys and brain were found to be congested and traversed by minute abscesses. Cultures and microscopic slides were taken from the vegetations upon the heart valves and from the kidney abscesses. In both cases the *staphylococcus pyogenes aureus* and *streptococcus pyogenes* were found. The latter bacterium was predominant in the cultures obtained from the heart vegetations.

The etiology of the case in question could be traced only to the small and

apparently insignificant abrasion at the ankle-joint; for the patient was otherwise in excellent condition. It is difficult to understand why so many larger, dirty wounds in the patient's broken-down constitution escaped infection, while this trifling injury proved to be the source of death to the robust boy; moreover, as the wound was entirely healed at the beginning of the disease. The temperature was certainly extraordinarily high.

Another peculiar feature of this case was the absence of any physical signs indicating a derangement of the cardiac valves, notwithstanding the marked lesions found there at the necropsy.

The observation that this case was a result of *streptococcus* and *staphylococcus* infection fortifies the recently advanced opinion that the antitoxins of these micro-organisms ought immediately to be employed in pyæmia with obscure etiology. The fatality of this disease under other methods of treatment, and the encouraging results obtained from the administration of the antitoxins, certainly speak favorably of the latter. At all events, the latter method of treatment is certainly to be recommended.

—N. Y. Med. Record, vol. lili, No. 2, 1898.



## \*\*\*\*\* Gynecology and Obstetrics \*\*\*\*\*

### THE VAGINAL INCISION AND SHOCK.

My experience leads me to assert that there is much less shock in work done through the vagina than by abdominal section. To save the patient's life is one consideration, but to insure her comfort and happiness necessitates the proper operation done by the best method, which implies on the part of the operator diagnostic skill, mature judgment, dexterity, and familiarity with all methods born of true surgical principles. Methods are constantly changing. Principles only are eternal. Life is too dear to trust to method. Methods have fixed boundaries. Conservatism to some means keeping within these lines. Upon the altar of such are sacrificed many lives. Conservatism is acting in each case fearlessly and according to conditions, keeping in mind that the object of life is to function, and the reward of functioning of an organ, as of an individual, tends to harmony.

—Physician and Surgeon.

### OPERATIVE TREATMENT OF SLOUGHING FIBROIDS.

Vautrin was consulted by a woman, aged 52, subject to a large uterine fibroid. Bleeding was severe, and cedema of the legs and albuminuria had set in. The sanious discharge became fetid, and the patient grew cachectic. A tumor was found projecting into the vagina. It was sloughy and very friable. There was no pedicle, and it was clear, after careful search, that it was continuous with a large interstitial mass. Vautrin cut away the sphacelated part of the tumor and then thoroughly cleaned out the vagina by antiseptic injections continued for several days. Lastly, total abdominal hysterectomy

was performed after Doyen's method. The lips of the womb were first compressed with forceps so as to prevent the escape of septic material from the uterine cavity, and several compresses were pushed down the vagina from above after it had been opened. Otherwise the operation was not specially modified. The peritoneal cavity was drained from the vagina, and the abdominal wound closed. The patient was rapidly restored to health. Vautrin admits that a pedunculated fibroid polypus requires simple removal, as has long been practiced, but when a fibroid mass projecting into the uterine cavity, or even into the vagina, is quite sessile or continuous with a similar growth which is developing upwards, hysterectomy is far less dangerous than partial removal of the tumor through the vagina.

—Ann. de Gynec. et d'Obstet., August, 1898.

### TERATOMA OF ABDOMINAL CAVITY.

Montgomery relates the following case which occurred in the surgical practice of McNutt, of San Francisco. The patient was a girl, aged 12. Ten months before operation she noticed that her abdomen was swelling. Later the enlargement had increased rapidly—over an inch a day. The abdominal veins were dilated, and there was ascites, but no loss of flesh. At the operation two gallons of slightly bloody ascitic fluid escaped, and a tumor was discovered and removed. It lay on the right side of the abdomen and in the peritoneal cavity; it was long, narrow, and curved, the shorter arm of the curve lapped around the caput coli, whilst the longer was attached to the outer side of the ascending colon through nearly



its whole length to a point almost as high as the liver. It shelled out easily, and no other diseased tissue seemed to be left in the abdominal cavity. It weighed 2 pounds, and looked like a cerebral hemisphere. The patient recovered, but the abdomen soon began to enlarge once more, and it was opened again seven weeks after the first operation. A mass almost as large as the first was taken away, but it could not be readily enucleated as before, and it spread as a continuous layer of glairy, friable tissue over the visceral peritoneum of the lower part of the abdomen, behind the bladder and nearly across to the left side of the abdominal cavity. The patient died on the third day. The uterus, ovaries, liver, spleen, and kidneys appeared normal, and there did not seem to be any involvement of the intestinal wall excepting that the new growth developed in its serous coat. The surface of the tumor first removed was chiefly skin. In the interior, which was full of cysts, more or less high types of tissues were found mixed up without any ascertainable order. There were tracts of bone, hyaline, fibre, and even elastic cartilage, epithelium, sometimes ciliated, and a trace of an eye represented by a tract of retinal pigment epithelium. There was plenty of skin, also nerve tissue, but nothing like striated muscular fibre. In many places were masses and strings of round or polyhedral epithelial cells forcing their way between the fibres of the stroma of the tumor as in ordinary carcinoma. In the recurrent growth, which was made up of a similar medley of tissues, the tracts of malignant degeneration were yet better marked. Montgomery gives a good summary of cases where teratomas have proved to be malignant. Out of ten cases, the primary seat was the ovary in seven, and metastases usually took the form of ordinary sarcoma or myo-sarcoma. Of the remaining three, two were intrathoracic, whilst the third was Czerny's very remarkable case of an ordinary congenital sacral tumor in a patient aged 55; it underwent malignant change after

repeated traumatism. After extirpation there was local recurrence followed by metastasis of flat epithelia cancer in the inguinal glands.

—Journal of Experimental Medicine, New York, May, 1898.

#### FLOODING FROM RUPTURE OF PLACENTAL SINUS.

Mijnlieff records a case where the patient was a 2-para, and after a normal labor became pregnant, all going on well till the eighth month. Then flooding set in when she was engaged at laundry work. The hæmorrhage subsided, and she kept her bed for four days. Three weeks later flooding again set in at night; it subsided after rest, as before. Seven days later the patient gave birth spontaneously to a living child over 5 1-2 pounds in weight. There was no evidence of any old-standing detachment of the placenta. A rent was, however, detected in the membranes; it ran on to the border of the placenta, where there was an old clot running right and left in the marginal sinus.

—Med. Weekblad van Noord-en Zuid-Nederland, No. 8, 1898.

#### THE CURABILITY OF CANCER OF THE BREAST.

Warren publishes a list of 72 cases of cancer of the breast on which he has operated in the course of the last fifteen years. Of the 72 patients 26 were alive in June last and 38 have died. Of the 26 living there are 3 who are now suffering from recurrence of the disease and 4 who have had a recurrence but remained well up to the time the paper was prepared. Taking the three years' limit as the gauge of success, the author finds 17 such cases in his list. Of these patients 2 are dead, 1 dying ten years after the operation of apoplexy, the other after an interval of six years of sporadic cholera. In 3 instances operations have been performed for recurrence, and the patients are now alive and well, 1 three years, 1 four years, and the third ten years after the last operation. Of the remaining 12 cases the operation was performed in 3 over three years ago, in 4 over 4

years ago, in 2 over 5 years ago, in 1 over nine years ago, in 1 eleven years ago, and in 1 over twelve years ago. It is evident, the author states, that high percentages of cures, or of good results persisting after an interval of three years, can be obtained only when cases are selected with some care. Before the percentages of success can be permanently placed so high that surgeons may hope to save over one-half of their cases, medical men must be educated up to that point that they will recommend an early operation and not wait until the case is hopeless before they send their patient to consult a specialist.

Boston Med. and Surg. Journ., August 25th, 1898.

#### VAGINAL HYSTERECTOMY FOR CANCER.

Lamphear, of St. Louis, reports 109 cases where he has performed this operation. Seven survived over six years, 13 over five, 12 over three, recurrence occurring within five years, whilst 15 died from or soon after operation. Sixteen recurrences were correctly ascertained: 1 died after three years, 2 were still living (with recurrence after three years), 7 died within three years, 6 were still living, with recurrence within three years from the operation. In 10 more recurrence was suspected. One died more than five years after operation from disease unassociated with the cancer, which had not recurred; 3 died under the same condition between three and five years. Thirty-two were still in "danger period," or had been lost sight of. More concisely Lamphear tabulates the 109 cases thus: (1) Apparently recovered, 36; (2) with recurrences of cancer, 26; (3) still doubtful, 32. He admits that five years is not an absolute limit of danger. Lester Hall notes a case of recurrence more than five years after hysterectomy. Lamphear considers that radical operation is indicated under the following circumstances: (1) Hysterectomy should be performed as soon as a diagnosis of carcinoma of the cervix is made, provided the disease is un-

questionably not too far advanced for any possible benefit at the time of first examination. (2) Whenever there is a fungus growth upon the cervix, especially in a patient near the menopause, which persists in spite of treatment, even though there is no ulceration and but little tendency to spread, radical operation should be performed. It is probably the papillary form of carcinoma cervicis (cauliflower cancer), and there is always involvement of the mucous membrane of the body, so that high amputation will not cure. (3) When there are one or more nodules in the mucous membrane of the cervix, which soon ulcerate and destroy the mucosa, operation should not be delayed. Such trouble is almost invariably the nodular variety of carcinoma of the cervix. (4) When there is an infiltrate in or beneath the cervical mucous membrane, just within the os, which soon breaks down and destroys the cervix by erosion, hysterectomy is advisable instead of the former high amputation. The condition is that variety known as cancer of the cervical mucous membrane ("eating cancer"), and may have progressed far before the os shows any marked change when viewed through the speculum. (5) When there is evidence of the existence of cancer of the parenchyma of the uterus (usually fibro-sarcoma), even if the cervix seems to be perfectly normal, immediate removal is imperative. Such cases are not rare. I have removed several such wombs. (6) Vaginal hysterectomy is necessary whenever a glandular endometritis becomes inveterate, showing a tendency to degenerate into a typical malignant adenoma—that is, adenocarcinoma (glandular carcinoma or primary cancer of the mucous membrane of the uterine body)—at the menopause, as indicated by (a) the appearance of irregular hæmorrhages, (b) the presence of a serous, reddish, odorous discharge, and (c) paroxysmal pain. (7) In all cases where there is even a strong suspicion of malignant disease the uterus should be removed. In early operation lies safety. I have re-

moved a number of wombs on the mere suspicion of cancer, and the microscope has confirmed the suspicion in all but one case. I can quite agree with Pozzi that "it may even happen that as a last resort against persistent hæmorrhage alone we are obliged to perform the vaginal hysterectomy with only the diagnosis of probable cancer."

Amer. Journ. Surg. and Gynec., Sept. 1898.

#### LARGE ABSCESS OF OVARY AFTER PNEUMONIA.

Dirner reports the removal of an ovarian tumour, as big as the foetal head, from a multiparous woman aged 32. It had developed during convalescence from double pneumonia. Thus puerperal infection was out of the question, whilst there was no evidence of the existence of the bacillus coli communis.

Centralblatt f. Gynak., No. 32, 1898.

#### DANGERS OF OVARIAN CYST- OMA IN PREGNANCY.

Schwarz reports that a woman with a dermoid cyst was taken with labour pains at the sixth month, but as the tumour was impacted in the pelvis and could not be reduced and flooding had set in, the foetus was extracted. During version the cyst burst, and the patient died on the third day of peritonitis. Tenesváry observed that the result once more impresses upon us the necessity of ovariectomy in such a case, delivery to be effected afterwards.

Centralblatt f. Gynak., No. 32, 1898.

#### CAUSE OF PAIN AS A SYMPTOM OF TWISTED PEDICLE.

Cerné recently exhibited at Rouen a small cyst, hardly as large as a moderate-sized apple, which had been the cause of severe pelvic pain for three months, so that hydrosalpinx rather than ovarian tumour was suspected. Yet there were no adhesions and no sign of peritonitis, the cyst was unilocular and apparently parovarian. A very definite lesion was discovered, the pedicle being twisted three turns

and a half. The parts on the distal side of the seat of torsion where infiltrated with blood, and hæmorrhage had occurred into the cavity of the cyst. This case, like many others in the experience of those who have performed many ovariectomies, shows that the pain, often so marked in torsion of the pedicle, is directly due to the torsion, and is situated in the twisted structure. It is not caused by the movement of the cyst irritating the peritoneum.

Normandie Medicale, Aug., 1898.

#### STYPTICIN IN UTERINE HÆMORRHAGE.

Braitenberg tabulates 24 cases of metrorrhagia treated with stypticin in the Innsbruck Gynecological Clinic. Stypticin is hydrochloride of cotarnin, the base of the opium-alkaloid narcotin; it is a yellow, inodorous, bitter powder, and is usually given in 3-4 gr. doses five to eight times a day. In severe cases 3 gr., or even more, can be safely administered. When taken by the mouth eructations are apt to follow, so that intramuscular injections of a 10 per cent. solution into the nates are to be preferred. In the 24 cases referred to a negative result is recorded in one only, and an almost negative in another; there were no ill-effects. The sedative action recorded by previous authors was not evident, as when pain was present it rarely yielded at the same time as the hæmorrhage. In accordance with previous observations, least result was obtained in uncomplicated hæmorrhagic endometritis; when, however, the stypticin was used for bleeding which had returned after curetting, its action was much more marked. When the hæmorrhage arose from malposition of the uterus, from peri- or parametritis, or from inflammation of the appendages, stypticin checked it most signally. In menorrhagia and dysmenorrhœa the results were equally good, as also in hæmorrhage without obvious anatomical cause. In a case of fibroids, however, no good was done. Only one case of hæmorrhage in pregnancy was treated; this was one of threatened

abortion from retroflexion. Seven doses of 3-4 gr. stopped the hæmorrhage and averted the abortion. None of the patients were confined to bed during the treatment, unless their diseases actually required it.

Wien Med. Presse, 1898, No. 35.

#### PREGNANCY AND HEART DISEASE.

Jess has during the last few years collected from his own clinic and also from those of others all the material bearing on this question. He says the family doctor is often asked whether a girl should be allowed to marry who is the subject of heart disease. The author's advice in these cases depends upon whether there is compensation or not. A heart with healthy muscle walls will bear pregnancy and parturition fairly well provided the patient is still young. Another point to be considered before and after parturition, is more readily obtained amongst the upper classes. The question of premature delivery in these cases is very difficult to decide. Schlazer brought on abortion in 3 out of 25 cases of pregnancy and heart disease; all 3 patients died. An abortion usually takes longer than a normal delivery, and this is probably the reason of the fatal termination. Advice is frequently asked during the last months of pregnancy, when it is too late to bring an abortion. Special instruction is given in Schlazer's clinic in the management of labor in cases of heart disease. The main object in treatment is to deliver as soon as possible with the forceps or turning. As the foetus is passing through the pelvis a sand bag weighing from 8 to 10 lbs. is placed on the abdomen in such a manner that it rests on the fundus uteri; the constant pressure of the sand-bag ensures the complete contraction of the uterus; no blood clots remain behind which saves the patient from subsequent pains. Alcoholic stimulants are given immediately after

delivery. The patient is kept in bed for three or four weeks at least.

Munch. Med. Woch., Oct. 11th, 1898.

#### HYPERTHERMIC BATHS IN METRORRHAGIA.

M. Veyrieres reports two cases of metrorrhagia in young girls which he successfully cured by hot-bath treatment.

The first case was that of a little girl, 12 years old, in whom menstruation appeared unattended by pain or fatigue, and continued uninterruptedly for several months instead of stopping normally. This patient was treated at La Bourbuile, by hyperthermic baths varying in temperature from 36 degrees to 41 degrees C.

The baths were continued for twenty minutes daily, and at the end of six days the flow had ceased entirely. Ten days later it reappeared as a normal menstruation, and for the two years since that time has continued entirely regular, with no return of metrorrhagia.

The second patient was a girl, 16 years old, in whose case a slight lipoma was removed from the anterior lip of the cervix with the hope of relieving the metrorrhagia, but without result. Precisely the same line of treatment was followed in this case as in the one cited above, with equally successful results.

The subsequent history of this case could not be followed, so that the permanency of the cure could not be stated.

The author merely quotes these cases as having been successfully treated in this way, after other means had failed, without attempting to account for the success of the baths.

The only details to be observed are to have the room thoroughly ventilated during the bath, have the patient lie down at once when it is over for half an hour, and avoid the danger of catching cold, since the subsequent perspiration is profuse.

La Presse Medicale, Aug. 20th, 1898.





# CLINICAL SURGERY AND SURGICAL PATHOLOGY

In Charge of T. H. MANLEY, M. D., New York.

## A MOST TIMELY CONTRIBUTION ON THE DIFFERENTIAL DIAGNOSIS OF GUMMA AND MALIGNANT DISEASE OF THE TONGUE.

When the gumma has softened, and more especially when it has broken down and discharged part of its contents, the diagnosis becomes easier. In carcinoma the ulceration is deep and ragged, and the destructive process begins at the surface and progresses to the deeper parts. In gumma the reverse is the case, and the presence and growth, for a considerable time, of a tumor, with subsequent breaking down and ulceration, will elucidate the diagnosis.

It must not be forgotten, also, that the two diseases may coexist. It seems that neglected cases of syphilis of the tongue are especially prone to undergo carcinomatous degeneration, and quite a number of cases are on record in which the one disease was grafted upon the other.

It is well, therefore, in every case of suspicious tumor formation or ulceration of the tongue, to begin the course with a vigorous course of antiluetic medication. A course of intra-muscular calomel injections or mercurial inunctions, together with proper doses of the iodide of potash (90 to 300 grains daily), will settle the question. It will also prevent an occurrence so mortifying to the physician as the mistaking of a tractable specific ulceration for cancerous disease, a mistake which has frequently occurred, even in competent hands. I well remember one such, in which all the preparations had been made for a radical operation, and the patient, a professional man, had settled his worldly affairs and resigned himself to death, for he knew the record of these cases. Luckily for himself and for the would-be operator, he consulted another physician, who

had no grounds for doubting the first diagnosis, but, nevertheless, put the patient upon heroic doses of potassium iodide. The induration melted away, the ulceration healed, the operation was abandoned, and the patient resumed his avocation. I presume that syphilis was not thought of at first, because the patient was an old man and because his position was such as to make that diagnosis appear very improbable.

Tuberculosis attacks the tongue as it does other organs. This localization, however, is very rare; signs of tuberculosis of other organs, more especially of the lungs and larynx, are almost invariably present; the tubercular ulcerations are very painful, and nodular miliary tubercles will be found in the tissues around the lesion. In cases of doubt a fragment of the diseased tissue should be removed and examined for tubercle bacilli.

The mistaking of the softened gumma before rupture for an abscess, and vice versa, has often occurred, even to the most experienced observers. Von Langenbeck records three such cases. Luckily the mistake does no harm. Opening a softened gumma is of course to be avoided, for retrogression and absorption without rupture occur even in the most unfavorable-looking cases; and a mercurial-iodide course will have no effect upon a simple abscess. A few days' observation will, however, clear up the diagnosis. The opened gumma does not heal up as an ulcer would; and the simple abscess grows and finally breaks in spite of internal medication.

Wm. S. Gotthell, M. D., *International Medical Magazine*, Dec., 1898.

The above extract from Professor Gotthell's able contribution merits something more than passing notice; and, no doubt, many of those so-called "cures of cancers" by early and wide extirpation were wrought on various

phases of degenerate syphilis or gum-matations in infiltrations.

This impresses one of the importance of always, when there is any possible room for doubt, first, thoroughly studying our case and submitting it to the "therapeutic test" before we place the fatal stamp of malignancy on it, or commit the monstrous blunder of inflicting a mutilation. T. H. M.

#### EXTIRPATION OF CANCER OF THE RECTUM BY A COMBINED ABDOMINAL AND PERINEAL METHOD.

Quénu (Rev. de Chir., August) in a communication made to the Société de Chirurgie of Paris, pointed out that surgical intervention in cases of cancer of the rectum may be reduced to two methods: the perineal operation for cancer, involving the lower part of the gut; and a combined abdominal and perineal method for all other forms of the disease. The perineal operation permits of the ready removal of at least 6 inches of the lower part of the rectum, but as it is held advisable to operate well beyond the limits of the disease, the author would practice the abdomino-perineal method in every case in which the cancer has spread beyond a line 4 inches above the anus. The objections to the latter and more radical method are the necessity of establishing an artificial anus in the groin, and the increased gravity of the surgical intervention, especially with regard to wound infection and hæmorrhage. Quénu states that every operation on the rectum sacrificing the sphincter leaves a false anus, and holds that infection may be prevented by careful attention to aseptic precautions, whilst free and dangerous bleeding may be avoided by preliminary ligation of both internal iliac arteries. The first stage of the abdomino-perineal operation consists in median laparotomy and transperitoneal ligation of these vessels. The sigmoid flexure is then exposed and divided, and the proximal end is stitched to the margins of an opening made in the left groin. The rectum is now separated

from the surrounding pelvic structures, its upper open extremity being closed by a ligature of gauze, and the abdominal wound is sutured. The final stage consists in freeing the lower part of the rectum by the ordinary perineal incision, and in removing by this way the whole of the diseased gut. Quénu has performed this operation in two cases with complete success, and without causing the least shock. —British Med. Journ., Dec. 17th, 1898.

#### THREE HUNDRED AND SIXTY GALL-STONES LAPAROTOMIES.

Hans Kehr (Volkman's Klinische Vorträge, No. 225, October 1898) condenses his experience during the past eight years in the surgical treatment of cholelithiasis. It is significant that nearly half of the whole number of operations recorded have been done since 1896. The total number of patients was 307, 255 being women, and fifty-two men; the mortality was 11.7 per cent. However, of the forty-two deaths reported thirty were due to causes not directly traceable to the operation (advanced stages of carcinoma, purulent cholangitis, etc.), thus reducing the actual death rate to 3.8 per cent. Kehr attributes much of his success to the very rigid asepsis practiced; he does not use rubber gloves, but his method of sterilizing the hands takes about a half hour, and to diminish sources of infection all his operations are done with but one assistant and one nurse. Another point of importance is the careful preparation of the patient by means of purgation and bathing. The cases operated on may be classified as follows:

1. Those in which the calculi were situated either in the gall-bladder itself or in the cystic duct and admitted or removal by cystostomy, cysticotomy, etc., 180 were done, of these 128 were immediate, and five two-staged cystostomies, seven were cystendyses, thirty-seven cystocotomies, two extraperitoneal "ideal" cystotomies, and one cysticolithotripsy; although inflammation and suppuration were present in two-thirds of the

cases, only three deaths resulted.

2. The condition of the gall-bladder was such that it was either useless to the individual or even a source of danger, through the presence of ulcers, fistulas, etc. In these, as in other cases where cystectomy seemed less difficult than cystotomy, complete extirpation of the viscus was practiced.

3. The calculi had already gained the common duct; in forty-six instances they were removed by choledochotomy, and in one by choledochotomy. There were four deaths.

4. Nineteen cases in which, instead of the suspected gall-stone, other morbid processes were found, such as gastric ulcer, floating kidney, etc., or the gall-bladder was free from calculi, but had contracted adhesions to intestine, stomach, or belly-wall.

5. Besides the colelithiasis there were present as complications, advanced carcinoma of liver, common bile-duct, stomach, pancreas, diffuse purulent cholangitis, cirrhosis of liver, septic peritonitis, etc., which make treatment difficult or impossible, forty-six cases, twenty-seven ending fatally. What is needed is greater care and skill in diagnosis; an effort should always be made to recognize one of the following conditions:

1. Gall-stone in gall-bladder without occlusion of cystic duct; apt to be confounded with gastric affections.

2. Gall-stones in the gall-bladder with temporary occlusion of the cystic duct.

3. Cholecystitis, hydrops, and empyema of gall-bladder.

4. Pericholecystitis, adhesions.

5. Acute occlusion of common bile-duct.

6. Chronic occlusion of common bile duct.

Jaundice is usually absent in conditions 1 to 4; in 5 and 6 it is generally, but not always, present.

The conclusion is that in suitable cases operation is to be recommended; it affords immediate and permanent relief (not a single case of recurrence was observed) and the patient's chances are better the sooner his condition is recognized and subjected to surgical treatment. J.

—American Medico-Surgical Bulletin,  
December 25th, 1898.

#### TRAUMATIC SEPARATION OF THE UPPER EPIPHYSIS OF THE FEMUR AND ITS RELATION TO COXA VARA.

At the Congress der Deutschen Gesellschaft für Chirurgie at Berlin, Sprenger gave notes of two young people who presented all the symptoms of coxa vara. The trochanters were abnormally high and the limb was in one case abducted, in the other adducted. No certain result was given by the X rays.

Springer operated, resecting the head of the femur in both cases. On sawing through the preparation it was found that the head was displaced downwards and fixed there by thick callus. He considered it impossible to diagnose coxa vara from incomplete separation of the epiphysis. As to the operation, he recommended a wedge-shaped ostotomy if the deformity lay at the epiphysis; otherwise resection.

One had to be guided by what one found on exposing the point through an incision on the outer side of the tensor fasciæ femoris. In the subsequent discussion Hofmeister agreed that one could not distinguish between coxa vara and traumatic loosening of the epiphysis by the Röntgen rays.

Joachimsthal stated that in order to see the condition of the neck of the femur by the X-rays the limb must be rotated inwards as far as possible.



## CURRENT MEDICAL LITERATURE

### CATHETERS AND CYSTITIS.

BY R. N. MAYFIELD, M. D.,

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It is well known that when it is necessary to use a catheter of usual construction—that is, with the ordinary fine perforations, as an inlet thereunto—it does not work readily or satisfactorily, or subserve fully the results expected from it.

Examples of such unsatisfactory operations are seen where there is a good deal of mucus present in the bladder, such mucus being apt to sur-

struction, being tubular, with the curve of an ordinary instrument, and opened at the end for an inlet. For the closure of this open end, and for the easy insertion of the catheter, as well as for other purposes, a bulbous or rounded head is used, preferably solid, and attached to one end of a wire, passing through the body of the tube and projecting at its rear or outlet end.

This construction forms a very efficient catheter having an area of opening so large as to greatly obviate the danger of clogging, for, if mucus should lodge against the open end, the working of the head back and



round or lie upon the end of the catheter, clogging or stopping the apertures thereof and preventing the ingress of fluids to be drawn off; again, when sediment or calcareous matter is present, it clogs, even sometimes filling in part or completely the apertures, with consequent failure of the catheter to fully perform its functions. Such failures are especially apt to happen in nearly, if not quite, all forms of chronic diseases of the bladder, and notably so in cystitis.

My object, therefore, is to present a catheter that is reliable and efficient in operation when the use of a catheter is indicated in all conditions and diseases of the bladder. In this instrument the danger of clogging or failure to perform its functions is obviated, and its interior may be readily made aseptic, and bits of mucus that usually clog an ordinary catheter may be readily drawn off.

This catheter is of very simple con-

struction, being tubular, with the curve of an ordinary instrument, and opened at the end for an inlet. For the closure of this open end, and for the easy insertion of the catheter, as well as for other purposes, a bulbous or rounded head is used, preferably solid, and attached to one end of a wire, passing through the body of the tube and projecting at its rear or outlet end.

With this instrument there should be no hesitancy in using nitrate of silver, iodine, corrosive sublimate, carbolic acid, or hydrogen solutions in the bladder, as any of these solutions can be readily drawn off or neutralized, thus preventing poisoning from absorption, or preventing rupture from gases that form in the bladder.

Regarding the treatment of cystitis with the employment of this catheter, presuming that we have a typical case, with ropy, viscid, and tenacious mucus, the membrane thickened and possibly ulcerated, and in deep folds—"ribbed," as it were—we begin the treatment as follows:

1. Inject a quarter of a grain of cocaine dissolved in a drachm of water into the membranous portion of the urethra.

2. Anoint the largest hard-rubber



catheter that can be well passed into the bladder, and increase the size one number each week until the urethra is normal in size.

3. Begin with dilute hydrogen solutions (preferably hydrozone) one part to twenty of lukewarm water, using this solution freely, especially when employing the large size catheter. If the small size is used at the beginning, I recommend the use of only two or three ounces at a time until removed by the return flow. This can be repeated until the return flow is clear and not "foaming," which indicate that the bladder is aseptic.

4. Partly fill the bladder with the following solution: tincture of iodine compound, two drachms; chlorate of potassium, half a drachm; chloride of sodium, two drachms; warm water, eight ounces. Let it remain a minute or so and then remove. This treatment should be used once or twice a day.

Where I suspect extensive ulceration I recommend once a week the use of from ten to twenty grains of nitrate of silver to the ounce, and neutralize with chloride-of-sodium solutions.

This treatment carried out carefully will be satisfactory, as there is no remedy that will destroy bacteria, fetid mucus, or sacculated calcareous deposits like hydrozone.

#### GREEN STOOLS IN ENTERIC FEVER.

The occurrence of green stools in enteric fever which has recently given rise to some discussion in the "British Medical Journal," is dealt with in an article in the St. Bartholomew's Hospital reports, vol. 33, by Drs. A. E. Garrod and Drysdale, and the late Professor Kanthack. They describe the character of this kind of a stool in 3 cases of enteric fever. The stools consisted of particles resembling chopped parsley suspended in a liquid which on filtration was turbid but almost colorless. They were acid in reaction and devoid of offensive odor. Chemical examination of the solid

particles showed the absence of urobilin or its chromogen, to which the normal color of stools is due, and the presence of biliverdin; and this the authors believe to be the coloring matter present in all green typhoid stools. The biliverdin probably exists in combination, since it can only be extracted by the use of acid alcohol, while free biliverdin is readily soluble in neutral alcohol. This view as to the causation of the green color was held by the older writers, but lately Lesage and others have asserted that the pigment is frequently of bacterial origin. In consequence of these statements the authors made cultures of organisms from these stools, and obtained as the predominant organism the bacterium coli commune or some member of an allied group. *Proteus vulgaris* was found in 2 cases, but no organism capable of forming a green pigment when grown in artificial media. Presence of unchanged bile pigment in the stools may be due to hastened peristalsis associated with extensive ulceration or catarrh about the lower end of the ileum and the colon, that is, at that portion of the bowel where the normal conversion process of the bile pigment into urobilin takes place. Possibly, however, bacterial action may be concerned in some way or other with the absence of the usual processes of transformation of the biliverdin into urobilin.

#### LABORATORY METHODS IN BACTERIOLOGY.

DR. F. G. NOVY.

##### Gram's Method.

With the exception of the tubercle bacillus, the methods of staining heretofore described are simple in character. That is to say, the germ and background are stained alike. In the case of the tubercle bacillus, special double-staining was resorted to, because this reaction is so characteristic as to enable immediate recognition of the organism. Only two or three other organisms are known which will double stain when treated by the same method.

There is, however, a method of

double staining which is applicable to a large number of bacteria. This process, known as Gram's method, is based upon the fact that the protoplasm of certain bacteria forms a difficultly soluble compound, when stained with anilin-water gentian violet and subsequently treated with iodine. On treatment with alcohol the dye is washed out of everything on the specimen except out of the germs. The deeply stained violet bacteria lie now on a colorless background which, on staining with a contrast color, such as eosin, becomes stained a light pink. The method is as follows:

A solution of anilin-water gentian violet is first prepared. Anilin oil is placed in a test tube to a depth of about half an inch. The tube is then filled with water, closed with the thumb, and thoroughly shaken in order to obtain a saturated aqueous solution of anilin. The liquid is then passed through a small filter, and collected in another test tube. The filtrate should be perfectly clear, not cloudy. To the anilin water thus obtained a saturated alcoholic solution of gentian violet is added till the fluid is deeply colored, rendered opaque. This result is obtained when about one-half cubic centimeter of the gentian violet solution is added to ten cubic centimeters of the anilin water.

Some of the anilin water gentian violet thus prepared is poured out into a watch glass. The cover-glass preparation is prepared in the usual way, dried in the air and then fixed by passing through a flame. The fixed cover-glass is placed between the thumb and forefinger, with the specimen side down, and then carefully dropped upon the surface of the stain. It is allowed to float on the dye for three to five minutes.

The cover-glass is then picked up with the forceps, thoroughly washed with water, and immersed in a solution of iodine in potassium iodide. This is made by dissolving two grains of potassium iodide, and one gram of iodine in 300 cubic centimeters of distilled water. The specimen is allowed to remain in the iodine solution for

three to five minutes. It is then removed, washed with water, and placed in 95 per cent. or in absolute alcohol. If the specimen has not been overstained, decoloration will take place rapidly. This may be assisted by gently tilting the dish, or by moving the specimen.

From time to time the cover-glass should be washed with water, placed on a slide, and examined with a one-sixth inch objective to ascertain the progress in decoloration. If the material has been spread out in a thin, even layer the decoloration will be rapid and thorough. On the other hand, if thick masses are present it will not be possible to obtain complete decoloration, without decoloring at the same time many of the bacteria. When, therefore, the greater part of the background has been decolored the treatment with alcohol should be discontinued.

The cover-glass is then washed with water, and stained with dilute eosin for one-fourth to one-half minute. Care must be taken not to overstain the preparation with eosin, since this would diminish the sharp contrast desired. After staining with eosin the specimen is thoroughly washed with water, and examined under the microscope. It should show the deeply stained violet bacteria on a light pink background.

Gram's method is applicable to many non-pathogenic and pathogenic bacilli and micrococci. A number of important disease bacteria are not stained by this method. Among these may be mentioned the gonococcus, the germs of typhoid fever, Asiatic cholera, influenza, black plague, glanders, and chicken cholera.

The method is applicable for staining the micrococci present in pus, the germs of erysipelas, diphtheria, tuberculosis, leprosy, actinomycosis, anthrax, etc. It is especially valuable when endeavoring to detect these organisms in material rich in organic matter, such as blood and pus. Most excellent results are obtained when the method is applied to sections of tissue.

The beginner can familiarize himself with the method by applying it to the staining of tubercle bacilli in sputum. It can also be tried for the detection of the diplococcus of pneumonia in the "rusty" sputum of that disease.

#### DOUBLE STAINING OF SPORES.

Many bacilli when grown under favorable conditions form spores. These bodies, which are the analogues of the seeds, in the higher plants, are formed within the bacterial cells. As a rule but one spore is formed within one bacillus. When the spore-containing bacillus is stained by dilute fuchsin or gentian violet, the bacterial cell proper will take the stain, whereas the spore will remain colorless. This resistance to coloration on the part of the spore is due to the dense impenetrable wall which envelopes the contents of the spore. Under certain conditions the staining reagent can be forced into the spore. Once inside, it becomes as difficult to remove the dye as it was to introduce it. On careful treatment with alcohol the stain can be washed out of the bacterial cell proper so that if the specimen is examined the spore will appear deeply stained within a colorless bacillus. On treatment with a suitable contrast color, the latter becomes colored and shows the spore in marked relief.

Spores containing bacilli may be found on potato cultures, prepared as described in the first paper. They may be present after the growth has developed for several days. If available, sporulating hay bacilli may be used.

Cover-glass preparations are prepared and fixed in the usual manner. The preparation is held in the forceps in the left hand with the specimen side up, and covered with fresh carbolic fuchsin solution, or anilin water fuchsin. It is then held over a low Bunsen flame so that vapors are slowly given off. From time to time the liquid lost by evaporation is replaced by the addition of a drop or two of the dye. Under no conditions should the dye be allowed to dry down on the cover-glass.

After heating the specimen in this manner for two or three minutes, it should be thoroughly washed in water and examined under the one-sixth or one-eighth inch objective. Colorless spores should no longer be visible, but everything should be stained a deep red. If the spores are not colored, the specimen should again be covered with carbolic fuchsin and heated till they take on the stain.

The cover-glass with the deeply stained spores is then placed in dilute alcohol and gently moved about. From time to time, it should be washed in water and examined under the microscope. As soon as the bacilli are decolorized, the washing in alcohol is discontinued. The specimen then shows bright red spores within cells that are almost or wholly colorless. The cover-glass is then stained for a short time with methylene blue, washed with water and examined. The spores should be stained a deep red while the bacillus itself should be light blue.

#### STAINING OF FLAGELLA.

Many bacteria possess active motion. The organs which cause this movement cannot be seen when the germs are examined in hanging-drop. Moreover, they are not rendered visible by the ordinary methods of staining. In order to demonstrate their presence, it is necessary to resort to a special procedure. The organism will then be seen to be surrounded by a fringe of very delicate wavy lines known as whips or flagella. The number of flagella will vary with the different species of bacteria, but usually a bacillus will possess from three to ten or more of these delicate appendages.

The method of staining flagella is, with slight modifications, that proposed by Löffler. Special attention must be given in the first place to the preparation of the specimen. Only fresh, vigorous, active cultures should be employed. The growth, therefore, should not be more than one or two days old. In old material the whips are liable to be torn off from the cell.

An excess of material should not be

placed on a cover-glass. It is advisable to first prepare a suitable dilution of the germs. For this purpose two or three drops of distilled water are placed on a slide and a very small amount of the growth is transferred to the water. The latter should be rendered just barely cloudy by the bacteria thus introduced. By means of a very small loop some of this suspension is taken up, transferred to a clean cover-glass, and spread out as evenly as possible.

The specimen is allowed to dry in the air or by gently waving it over a flame. The next step is to fix the material. This should not be done in the ordinary way inasmuch as there is danger of overheating, which would destroy the delicate whips. The cover-glass should be held between the thumb and forefinger, specimen side up, and quickly passed through a flame once or twice. There is thus no risk of over-heating.

The staining process requires the use of two solutions. The first one employed serves as a mordant, and, as used by Fischer, is prepared as follows: Two grams of dry tannin are dissolved in twenty cubic centimeters of water, and to this liquid four cubic centimeters of a ferrous sulphate solution (1:2), and one cubic centimeter of a concentrated alcoholic solution of fuchsin are added. The mixture is thoroughly stirred and the resultant precipitate is removed by filtration. The filtered mordant will keep for some time, and is said, indeed, to improve with age.

The stain proper is a hot saturated aqueous solution of fuchsin (1:50). An anilin-water fuchsin may be used to advantage.

This is prepared by adding two to three grams of fuchsin to 100 cubic centimeters of anilin water and heating till solution results.

The fixed specimen is held in a pair of forceps and the surface moistened with a drop of water. It is then covered with the mordant and gently heated over a low Bunsen flame so that vapors are slowly given off. At no time should the liquid boil. After

heating thus for one to two minutes the cover-glass is washed thoroughly under the tap. If the specimen has not been overheated, every trace of the mordant will wash off and leave a perfectly clear, colorless cover-glass. If a ring of deposit forms on the edge of the glass, and even this can be prevented by careful heating, it must be removed by scraping with the blade of the forceps.

The clean, mordanted cover-glass, moistened if necessary with a drop of water, is then covered with the fuchsin stain, and slowly and gently heated over a flame, for one to two minutes. Actual boiling of the liquid should be avoided. The specimen is then washed thoroughly and examined.

On examination with a one-eighth inch, or, better, with a one-twelfth inch homogeneous oil immersion objective, the bacilli will be seen to be provided with a number of very fine, wavy lines, the flagella. If much granular matter has been deposited on the cover-glass, it is as a rule due to overheating while mordanting, or while staining. Not a little patience and intelligent manipulation is necessary in order to obtain stained flagella on a clear, colorless background.

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#### HYPOT-SUBSTITUTE FOR OPIATES.

Dr. Obe F. Watlinton, of Memphis, Tenn., says: "I have in my possession a hypodermic alkaloidal solution, which is a specific in drug addictions (opium habituation, alcoholism, etc.). On receipt of a stamped envelope, or a two-cent stamp, I will take pleasure in furnishing any of the medical profession the formula, by the use of which a number of the fraternity have been enabled to cure themselves of opiumism, alcoholism and insomnia. I used morphia hypodermically for ten years and sustained a perfect cure by this preparation."